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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 10802-2023

Replacing GB/T 10802-2006

General flexible polyurethane cellular plastics

通用软质聚氨酯泡沫塑料

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Foreword

This document was drafted in accordance with the rules given in GB/T 1.1-2020 "Directives for standardization - Part

1.Rules for the structure and drafting of standardizing documents". This document replaces GB/T 10802-2006 "General flexible polyether polyurethane cellular plastics". Compared with GB/T 10802-2006, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) Changed the scope of application (see Chapter 1 of this Edition; Chapter 1 of Edition 2006);
- b) Changed the classification method and added grading (see Chapters 3 and 4 of this Edition; Chapter 3 of Edition 2006);
- c) Changed the deviation requirements for length, width and thickness (see 5.1, 5.2 of this Edition; 4.1,

4.2 of Edition 2006);

d) Changed the appearance requirements (see

5.3 of this Edition;

4.3 of Edition 2006);

e) Added the apparent density deviation requirements (see

5.4 of this Edition);

f) Added the 40% indentation hardness deviation requirements (see

5.5 of this Edition);

1 Scope

GB/T 10802-2023 is the Chinese national standard on general flexible polyurethane cellular plastics, in the field of rubber and plastic industries. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 7 September 2023 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 April 2024. Classification: ICS 83.100, CCS G32. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the classification, grading, requirements, inspection rules and marking, packaging, transportation, storage of general flexible polyurethane cellular plastics. It also describes the corresponding test methods. This document applies to flexible polyurethane foam in sheets, strips, blocks or cut shapes. This document does not apply to slow-rebound flexible polyurethane foam, high-rebound flexible polyurethane foam and thermoplastic polyurethane elastomer foam.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 2918-2018, Plastics -- Standard atmospheres for conditioning and testing

GB/T 6342-1996, Cellular plastics and rubbers. Determination of linear dimensions

GB/T 6343-2009, Cellular plastics and rubbers -- Determination of apparent density

GB/T 6344-2008, Flexible cellular polymeric materials -- Determination of tensile strength and elongation at break

GB/T 6669-2008, Flexible cellular polymeric materials -- Determination of compression set

GB/T 6670-2008, Flexible cellular polymeric materials -- Determination of resilience by ball rebound

GB/T 9345.1-2008, Plastics -- Determination of ash -- Part

3 Classification

General flexible polyurethane cellular plastics are divided into five categories according to their application areas. X, V, S, A, and L. Their usage types are shown in Table 1.

4 Grading

General flexible polyurethane cellular plastics are graded according to 40% indentation hardness, see Table 2.

5.1 Length and width deviation

5.1.1 The length and width deviation of cut and formed products shall comply with the requirements of Table 3.

5.2 Thickness deviation

5.2.1 The thickness deviation of cut and formed products shall comply with the requirements of Table 4.

5.3 Appearance

5.4 Apparent density deviation The apparent density deviation shall comply with the requirements of Table 6. 5.5 40% indentation hardness deviation

5.7 Combustion performance The combustion performance shall meet the standard requirements of the product application field.

6 Test methods

6.1 Timeliness and conditioning The test samples shall be placed under natural conditions for 72 h from the date of product production before sampling.

6.2 Determination of length, width and thickness deviation

6.2.1 Limit deviation of length and width. according to GB/T 6342-1996. Use a tape measure with a minimum graduation value of 1 mm to measure 3 values of length and width.

Calculate the limit deviation of length and width. The number of specimens is 3.

6.3 Appearance

6.3.1 Color and stains shall be visually inspected under natural light. 6.5 40% indentation hardness deviation According to Method B in GB/T 10807-2006, test the indentation hardness values at 25%, 40%, and 65%.

6.6 Rebound rate According to Method B in GB/T 6670-2008. Number of specimens.

3. Specimen size. (100 mm $\pm$ 3 mm) x (100 mm $\pm$ 3 mm) x (50 mm $\pm$ 2 mm).

6.8 Determination of 65%/25% depression ratio Conduct the test in accordance with Method B in GB/T 10807-2006. Test the indentation hardness values at 25%, 40%, and 65%. Calculate the 65%/25% indentation ratio.

6.9 Determination of odor level The odor level shall be in accordance with Annex B of QC/T 850-2011.

6.10 Determination of 40% indentation hardness loss after repeated indentation fatigue under constant load The test is carried out in accordance with the provisions of QB/T 2819-2006. The number of specimens is 3.

6.14 Determination of tensile strength after hygrothermal aging and rate of change of tensile strength after hygrothermal aging

6.15 Ash content Proceed as per Method A in GB/T 9345.1-2008. The test temperature is 825°C. The residue is calcined until constant weight is reached, but the calcination time at the specified temperature shall not exceed 3 h.

6.16 Formaldehyde emission According to A.3 of QC/T 850-2011.

7.1 Inspection categories

7.1.1 Exit-factory inspection The exit-factory inspection items are length deviation, width deviation, thickness deviation, appearance, apparent density deviation, 40% indentation hardness deviation, and rebound rate.

7.1.2 Type inspection Type inspection covers all items in Chapter

5. Type inspection shall be conducted in any of the following situations.

7.2 Batching and sampling

7.2.1 Batching For the same raw materials, same formula and same process conditions, the continuous production quantity shall not exceed 50 t per batch. The box-type production quantity shall not exceed 10 t per batch.